

Docket No. 740756-2183
Serial No. 09/620,968
Page 2

IN THE CLAIMS:

1. (Canceled)
2. (Previously presented) A method for manufacturing a semiconductor device comprising the step of:
forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more.
3. (Previously Presented) A method according to claim 2 wherein the sputtering is performed by an RF sputtering method.
4. (Previously Presented) A method according to claim 2 wherein the semiconductor device is incorporated into an active matrix display device.
5. (Previously presented) A method for manufacturing a semiconductor device comprising the step of:
forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more and argon at 25 volume % or less.
6. (Previously Presented) A method according to claim 5 wherein the sputtering is performed by an RF sputtering method.
7. (Previously Presented) A method according to claim 5 wherein the semiconductor device is incorporated into an active matrix display device.
8. (Previously Presented) A method according to claim 5 wherein the atmosphere further comprises a halogen compound gas at 0.2 to 20 volume %.

W707046.1

Docket No. 740756-2183
Serial No. 09/620,968
Page 3

9. (Previously presented) A method for manufacturing a semiconductor device comprising the steps of:

forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more; and
forming an electrode comprising aluminum over the insulating film.

10. (Previously Presented) A method according to claim 9 wherein the sputtering is performed by an RF sputtering method.

11. (Previously Presented) A method according to claim 9 wherein the semiconductor device is incorporated into an active matrix display device.

12. (Previously presented) A method for manufacturing a semiconductor device comprising the steps of:

forming an insulating film comprising silicon nitride over a semiconductor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more and argon at 25 volume % or less; and
forming an electrode comprising aluminum over the insulating film.

13. (Previously Presented) A method according to claim 12 wherein the sputtering is performed by an RF sputtering method.

14. (Previously Presented) A method according to claim 12 wherein the semiconductor device is incorporated into an active matrix display device.

15. (Previously Presented) A method according to claim 12 wherein the atmosphere further comprises a halogen compound gas at 0.2 to 20 volume %.

16. (Previously presented) A method for manufacturing a semiconductor device comprising the step of:

forming a transistor; and

W707046.1

Docket No. 740756-2183
Serial No. 09/620,968
Page 4

forming an insulating film comprising silicon nitride over the transistor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more.

17. (Previously Presented) A method according to claim 16 wherein the sputtering is performed by an RF sputtering method.

18. (Previously Presented) A method according to claim 16 wherein the semiconductor device is incorporated into an active matrix display device.

19. (Previously Presented) A method for manufacturing a semiconductor device comprising the steps of:
forming a transistor; and
forming an insulating film comprising silicon nitride over the transistor by sputtering in an atmosphere comprising nitrogen at 75 volume % or more and argon at 25 volume % or less.

20. (Previously Presented) A method according to claim 19 wherein the sputtering is performed by an RF sputtering method.

21. (Previously Presented) A method according to claim 19 wherein the semiconductor device is incorporated into an active matrix display device.

22. (Previously Presented) A method according to claim 19 wherein the atmosphere further comprises a halogen compound gas at 0.2 to 20 volume %.

23. (Previously Presented) A method according to claim 8, wherein the halogen compound gas is selected from the group consisting of NF_3 , N_2F_4 , HF , chloro-fluoro carbon, F_2 , CCl_4 , Cl_2 and HCl .

W707046.1

Docket No. 740756-2183
Serial No. 09/620,968
Page 5

24. (Previously Presented) A method according to claim 15, wherein the halogen compound gas is selected from the group consisting of NF_3 , N_2F_4 , HF, chloro-fluoro carbon, F_2 , CCl_4 , Cl_2 and HCl.

25. (Previously Presented) A method according to claim 22, wherein the halogen compound gas is selected from the group consisting of NF_3 , N_2F_4 , HF, chloro-fluoro carbon, F_2 , CCl_4 , Cl_2 and HCl.

26. (New) A method according to claim 2, wherein the sputtering is performed by using a target comprising silicon nitride.

27. (New) A method according to claim 5, wherein the sputtering is performed by using a target comprising silicon nitride.

28. (New) A method according to claim 9, wherein the sputtering is performed by using a target comprising silicon nitride.

29. (New) A method according to claim 12, wherein the sputtering is performed by using a target comprising silicon nitride.

30. (New) A method according to claim 16, wherein the sputtering is performed by using a target comprising silicon nitride.

31. (New) A method according to claim 19, wherein the sputtering is performed by using a target comprising silicon nitride.

W707046.1